

Testimony

Before the Subcommittee on Oversight and Investigations, House Veterans' Affairs Committee

For Release on Delivery Expected at 10:00 a.m. EDT Tuesday, July 14, 2009

ELECTRONIC HEALTH RECORDS

Program Office Improvements Needed to Strengthen Management of VA and DOD Efforts to Achieve Full Interoperability

Statement of Valerie C. Melvin, Director Information Management and Human Capital Issues



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1. REPORT DATE 14 JUL 2009		2. REPORT TYPE		3. DATES COVE 00-00-2009	ered 9 to 00-00-2009
4. TITLE AND SUBTITLE			5a. CONTRACT	NUMBER	
Electronic Health l Strengthen Manag	-		5b. GRANT NUMBER		
Interoperability 6. AUTHOR(S)				5c. PROGRAM ELEMENT NUMBER 5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Government Accountability Office,441 G Street NW,Washington,DC,20548				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAIL Approved for publ	ABILITY STATEMENT ic release; distributi	ion unlimited			
13. SUPPLEMENTARY NO	TES				
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified	Same as Report (SAR)	17	

Report Documentation Page

Form Approved OMB No. 0704-0188



Highlights of GAO-09-895T, a testimony to Subcommittee on Oversight and Investigations; House Committee on Veterans' Affairs

Why GAO Did This Study

For over a decade, the Department of Veterans Affairs (VA) and the Department of Defense (DOD) have been working on initiatives to share electronic health information. To expedite their efforts. Congress mandated in the National Defense Authorization Act for Fiscal Year 2008 that VA and DOD establish a joint interagency program office to act as a single point of accountability in the development of electronic health records systems or capabilities that allow for full interoperability (generally, the ability of systems to exchange data) by September 30, 2009.

In this statement, GAO summarizes findings from its upcoming report, focusing on progress in setting up the interagency program office and the departments' actions to achieve fully interoperable capabilities by September 30, 2009. To do so, GAO analyzed agency documentation on project status and conducted interviews with agency officials.

What GAO Recommends

GAO's draft report recommends that the Secretaries of Defense and Veterans Affairs emphasize the interagency program office's establishment of a project plan and integrated master schedule to guide their interoperability activities.

View GAO-09-895T or key components. For more information, contact Valerie Melvin at (202) 512-6304 or melvinv@gao.gov.

ELECTRONIC HEALTH RECORDS

Program Office Improvements Needed to Strengthen Management of VA and DOD Efforts to Achieve Full Interoperability

What GAO Found

VA and DOD have made progress in setting up the interagency program office; however, the office is not yet effectively positioned to be accountable for the departments' efforts to achieve fully interoperable electronic health record systems or capabilities. The departments have taken the important steps of completing personnel descriptions and hiring necessary staff to perform the office's functions, but key leadership positions (for the Director and Deputy Director) continue to be filled on an interim basis. In addition, the office has established a charter and begun to demonstrate responsibilities outlined within this document. Nonetheless, the office is not yet fulfilling key information technology management responsibilities in the areas of performance measurement, project planning, and scheduling—all of which are essential to establishing the office as a single point of accountability for the departments' interoperability efforts.

VA and DOD continue to take steps toward achieving full interoperability by the September deadline. In this regard, the departments have achieved planned capabilities for three of six interoperability objectives (see table) that they identified to meet their data sharing needs—refine social history data, share physical exam data, and demonstrate initial network gateway operation. For the remaining three objectives—expand questionnaires and self assessment tools, expand DOD inpatient medical records system, and demonstrate initial document scanning—the departments have partially achieved planned capabilities, with additional work needed to fully meet clinicians' needs for health information.

Description of VA and DOD Interoperability Objectives		
Objective	Description	
Refine social history data	DOD will begin sharing with VA social history data currently captured in the DOD electronic health record. Such data describe, for example, patients' involvement in hazardous activities and tobacco and alcohol use.	
Share physical exam data	DOD will provide an initial capability to share with VA its electronic health record information that supports the physical exam process when a service member separates from active military duty.	
Demonstrate initial network gateway operation	DOD and VA will demonstrate the operation of secure network gateways that provide expanded bandwidth to support information sharing between DOD and VA healthcare facilities.	
Expand questionnaires and self assessment tools	DOD will provide all periodic health assessment data stored in its electronic health record to the VA such that questionnaire responses are viewable with the questions that elicited them.	
Expand DOD inpatient medical records system	DOD will expand its inpatient medical records system to at least one additional site in each military medical department (one Army, one Air Force, and one Navy for a total of three sites)	
Demonstrate initial document scanning	DOD will demonstrate an initial capability for scanning service members' medical documents into its electronic health record and sharing the documents electronically with the VA.	

Source: GAO based on VA and DOD data

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss the Departments of Veterans Affairs' (VA) and Defense's (DOD) interagency program office and efforts toward advancing the use of health information technology to achieve interoperable electronic health records. As you know, VA and DOD have been working for over a decade on initiatives to share data between their health information systems: yet, while they have made progress in a number of areas, questions have persisted concerning when and to what extent the intended electronic sharing capabilities of the two departments will be fully achieved. To expedite their efforts, the National Defense Authorization Act for Fiscal Year 2008¹ included provisions directing VA and DOD to jointly develop and implement, by September 30, 2009, fully interoperable electronic health record systems or capabilities that are compliant with applicable federal interoperability² standards. It further established an interagency program office to be a single point of accountability for the departments' efforts.

Also, the act directed us to report semiannually on VA's and DOD's progress in implementing their electronic health record systems. In this regard, we have previously issued two reports (in July 2008 and January 2009). We plan to issue a third report near the end of this month—a draft of which is currently with the departments for their review and comments. At your request, my testimony today summarizes findings from this latest draft report, focusing on the departments' progress in setting up the interagency program office as a point of accountability for the implementation of interoperable electronic health records, and actions being taken to achieve these capabilities by September 30, 2009.

In developing this testimony, we relied on our previous work supporting the draft report. We conducted our work from April 2009

¹Pub. L. No. 110-181, § 1635 (2008).

²Interoperability is the ability of two or more systems or components to exchange information and to use the information that has been exchanged. Further discussion of levels of interoperability is provided later in this testimony.

through July 2009, in the Washington, D.C. metropolitan area. All work on which this testimony is based was performed in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The use of information technology (IT) to electronically collect, store, retrieve, and transfer clinical, administrative, and financial health information has great potential to help improve the quality and efficiency of health care and is important to improving the performance of the U.S. health care system. Historically, patient health information has been scattered across paper records kept by many different caregivers in many different locations, making it difficult for a clinician to access all of a patient's health information at the time of care. Lacking access to these critical data, a clinician may be challenged to make the most informed decisions on treatment options, potentially putting the patient's health at greater risk. The use of electronic health records can help provide this access and improve clinical decisions.³

Key to making health care information electronically available is interoperability—that is, the ability to share data among health care providers. Interoperability enables different information systems or components to exchange information and to use the information that has been exchanged. This capability is important because it allows patients' electronic health information to move with them from provider to provider, regardless of where the information originated. If electronic health records conform to interoperability standards, they can be created, managed, and consulted by

³An electronic health record is a collection of information about the health of an individual or the care provided, including patient demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data, and radiology reports.

authorized clinicians and staff across more than one health care organization, thus providing patients and their caregivers the necessary information required for optimal care. In the health IT field, standards may govern areas ranging from technical issues, such as file types and interchange systems, to content issues, such as medical terminology. Unlike paper-based documents, electronic health records can also provide automatic alerts about a particular patient's health, or other advantages of automation.

In prior reports, we have discussed the different levels of interoperability that agencies can achieve. At the highest level, electronic data are computable (that is, in a format that a computer can understand and act on to, for example, provide alerts to clinicians on drug allergies). At a lower level, electronic data are structured and viewable, but not computable. At still a lower level, electronic data are unstructured and viewable, but not computable. With unstructured electronic data, a user would have to find needed or relevant information by searching uncategorized data. Beyond these, paper records also can be considered interoperable (at the lowest level) because they allow data to be shared, read, and interpreted by human beings. According to VA and DOD officials, not all data require the same level of interoperability, nor is interoperability at the highest level achievable in all cases. For example, unstructured, viewable data may be sufficient for such narrative information as clinical notes.

VA and DOD Are Required by Law to Establish an Interagency Program Office and Achieve Full Interoperability

As previously noted, the National Defense Authorization Act for Fiscal Year 2008⁵ called for VA and DOD to jointly develop and implement fully interoperable electronic health record systems or capabilities by September 30, 2009, and established an interagency

⁴These levels were identified by the Center for Information Technology Leadership, which was chartered in 2002 as a research organization to help guide the health care community in making more informed strategic IT investment decisions. According to VA and DOD, the different levels of interoperability have been accepted for use by the Office of the National Coordinator for Health Information Technology.

⁵Pub. L. No. 110-181, § 1635 (2008).

program office to be accountable for the departments' efforts in this regard. The departments have been working to set up this office since April 2008. In January 2009, the office completed its charter, articulating, among other things, its mission and functions with respect to attaining interoperable electronic health data. The charter further identified the office's responsibilities in carrying out its mission, in areas such as oversight and management, stakeholder communication, and decision-making.

Further, to help meet the intent of the act, the Interagency Clinical Informatics Board, and up of senior clinical leaders from both departments who represent the user community, began establishing priorities for health data sharing between VA and DOD. The board subsequently identified six interoperability objectives for meeting the departments data sharing needs, as reflected in table 1.

⁶This board was originally named the Joint Clinical Information Board.

Objective	Description	Associated interoperability level
Refine social history data	DOD will begin sharing with VA the social history data that is currently captured in the DOD electronic health record. Such data describe, for example, patients' involvement in hazardous activities and tobacco and alcohol use.	Structured, viewable electronic data
Share physical exam data	DOD will provide an initial capability to share with VA its electronic health record information that supports the physical exam process when a service member separates from active military duty.	Structured, viewable electronic data
Demonstrate initial network gateway operation	VA and DOD will demonstrate the operation of the secure network gateways to support joint DOD-VA health information sharing.	There is no interoperability level associated with this objective.
Expand questionnaires and self assessment tools	DOD will provide all periodic health assessment data stored in its electronic health record to the VA in such a fashion that questionnaire responses are viewable with the questions that elicited them.	Structured, viewable electronic data
Expand DOD inpatient medical records system	DOD will expand its inpatient medical records system (CliniComp's Essentris ^b product suite), also called the clinical information system, to at least one additional site in each military medical department (one Army, one Air Force, and one Navy for a total of three sites).	Unstructured, viewable electronic data
Demonstrate initial document scanning	DOD will demonstrate an initial capability for scanning service members' medical documents into its electronic health record and sharing the documents electronically with the VA.	Unstructured, viewable electronic data

Source: GAO Analysis of VA and DOD data.

According to the former acting director of the interagency program office, VA and DOD consider achievement of these six objectives, in conjunction with data sharing capabilities previously achieved (e.g., the Federal Health Information Exchange (FHIE), the Bidirectional

^aSecure network gateways provide expanded bandwidth to support information sharing and ensure secure and reliable data communications between VA and DOD health care facilities.

^bEssentris is a commercial health information system customized to support inpatient treatment at military medical facilities.

⁷FHIE, enhanced through its completion in 2004, provides a one-way transfer of data that enables DOD to electronically transfer service members' electronic health information to VA when the members leave active duty.

Health Information Exchange (BHIE),⁸ and the interface between DOD's Clinical Data Repository (CDR) and VA's Health Data Repository (HDR), known as CHDR),⁹ to be sufficient to satisfy the requirement for full interoperability by September 2009.

DOD/VA Interagency Program Office Has Made Progress in Becoming Operational, but Is Not Fully Functioning as a Single Point of Accountability

As our report later this month will note, VA and DOD have taken important steps to make the interagency program office operational. However, more work is needed to solidify its leadership and management capabilities if the office is to effectively function as a single point of accountability for achieving interoperable electronic health data.

In particular, the departments have completed personnel descriptions and recruited and hired staff for government positions and obtained necessary contractor staff to perform the office's functions. As of early July, the departments reported that they had selected staff members for 10 of 14 government positions and that recruitment efforts were underway to fill the remaining 4 positions by late September 2009. Further, all of the 16 designated contractor positions had been filled.

⁸BHIE, established in 2004, was aimed at allowing clinicians at both departments viewable access to records on shared patients—that is, those who receive care from both departments. For example, veterans may receive outpatient care from VA clinicians and be hospitalized at a military treatment facility. To create BHIE, the departments drew on the architecture and framework of the information transfer system established by the FHIE project. Unlike FHIE, BHIE is a two-way interface that allows clinicians in both departments to view, in real time, limited health data (in text form) from the departments' existing health information systems. The interface also allows DOD sites to see previously inaccessible data at other DOD sites.

⁹Combining the names of the two repositories, the Clinical Data Repository/Health Data Repository (CHDR) interface, pronounced "cheddar," implemented in September 2006, linked the department's separate repositories of standardized data to enable a two-way exchange of computable health information. These repositories are a part of the modernized health information systems that the departments have been developing—DOD's AHLTA and VA's HealtheVet.

Nonetheless, VA and DOD continue to fill the office's key leadership positions—that of director and deputy director—on an interim basis. To their credit, the departments have taken steps to hire a full-time permanent director and a deputy director to lead the office. Earlier this month, DOD selected a candidate for the director position, VA concurred with the selection, and the candidate's application was sent to the Office of Personnel Management for approval. In the meantime, the departments requested and received an extension of the interim director's appointment until September 30, 2009, or until a permanent official is hired. Further, as of late June, interagency program officials stated that actions were underway to fill the deputy director position and that VA was interviewing candidates for this position. The interim director stated that the departments anticipate making a selection for the deputy director position by the end of this month.

Beyond the need to appoint these key permanent leaders, the office needs to fulfill a number of responsibilities identified in its January 2009 charter that are critical to its effectiveness. To this end, the office has taken several steps. For example, it submitted its first annual report to Congress that summarized the departments' efforts toward achieving full interoperability and the status of key activities completed to set up the office. Further, the office developed 11 standard operating procedures in areas such as program management oversight, strategic communications, and process improvement.

However, the office has not yet carried out other key responsibilities identified in its charter that are fundamental to effective IT program management and that would be essential to effectively serving as the single point of accountability. For example, the office has not yet established results-oriented (i.e., objective, quantifiable, and measurable) goals and performance measures for all six of the interoperability objectives discussed previously.

In particular, early development and use of results-oriented metrics is an important IT program management activity. Performance goals and measures, if effectively implemented, can provide a meaningful baseline against which to measure the progress of a program and the outcomes associated with its implementation. VA and DOD agreed with our previous recommendation calling for the

development of such goals and measures.¹⁰ Further, the interagency program office charter identified the development of metrics to monitor the departments' performance against interoperability objectives as a responsibility of the office. Nevertheless, the office has developed performance goals for only one of the six identified interoperability objectives—the expansion of DOD's medical records system (Essentris) to share inpatient discharge summaries with VA. Department officials have stated that results-oriented goals and measures for the other five interoperability objectives will be included in the next version of the DOD/VA Joint Executive Council Joint Strategic Plan, expected to be completed by December 2009. To the extent that the departments establish and effectively use results-oriented goals and measures for their interoperability objectives, they will be better positioned to gauge their progress toward achieving fully interoperable capabilities and improving veterans' health care.

Further, development of an integrated master schedule is a key IT program management activity, especially given the magnitude and complexity of the departments' efforts to achieve full interoperability. According to DOD guidance, "an integrated master schedule should identify detailed project tasks and the associated start, completion, and interim milestone dates; resource needs; and relationships (e.g., sequence and dependencies) between tasks.

While the program office has begun to develop an integrated master schedule as required by its charter, the current version does not include the attributes of an effective schedule. For example, the schedule included limited information—only the name of the objective and a completion date of September 30, 2009—for three of the six interoperability objectives (i.e., refine social history data, share physical exam data, and expand questionnaires and self assessment tools). The schedule did not include information on tasks to be performed to meet the objectives, nor start dates,

¹⁰GAO, Electronic Health Records: DOD's and VA's Sharing of Information Could Benefit from Improved Management, GAO-09-268 (Washington, D.C.: Jan. 28, 2009).

¹¹DOD Integrated Master Plan and Integrated Master Schedule Preparation and Use Guide, Version 0.9, October 21, 2005.

resource needs, or relationships between tasks for any of the six objectives. Without a complete and detailed integrated master schedule, the departments are devoid of critical information that could be vital to their ability to appropriately respond to project needs and guide project efforts.

Similarly, development of a project plan is an important activity for IT program management. Industry best practices and IT program management principles stress the importance of sound planning for any project. Inherent in such planning is the development and use of a project management plan that describes, among other things, the project's scope, resource needs, and key milestones. The interagency program office charter identified the need to develop a project plan but, as of late June, the office had not yet done so. As we have noted in our prior work, ¹² without a project plan, the departments lack a key tool that could be used to guide their efforts in achieving full interoperability.

In discussing these activities, the interagency program office's interim director and former acting director cited three reasons for why performance measurement, scheduling, and project planning responsibilities had not been accomplished. First, they stated that because it has taken longer than anticipated to hire staff, the office has not been able to perform all of its responsibilities. Second, the office's interim leadership and staff have focused their efforts on providing interested parties (e.g., federal agencies and military organizations) with briefings, presentations, and status information on activities the office is undertaking to achieve interoperability, in addition to participating in efforts to develop a strategy for implementation of the Virtual Lifetime Electronic Record, which the President announced in April 2009. Finally, according to the officials, the office waited until June to begin the process of developing performance metrics so that it could do so in conjunction with the departments' annual update to the Joint Strategic Plan that is scheduled for completion in December 2009.

¹²GAO, Computer-Based Patient Records: VA and DOD Efforts to Exchange Health Data Could Benefit from Improved Planning and Project Management, GAO-04-687 (Washington, D.C.: June 7, 2004).

In the absence of sufficient metrics to monitor progress, a complete integrated master schedule, and a project plan, the interagency program office's ability to effectively provide oversight and management, including meaningful reporting on the progress and delivery of interoperable capabilities, is jeopardized. As importantly, the absence of these critical management tools calls into question the effectiveness of this office in functioning as the single point of accountability for achieving full interoperability, and the departments' overall success in meeting this goal.

VA and DOD Are Taking Steps to Meet their Objectives, but Activities to Meet Clinicians' Needs Are Expected to Remain After the Deadline for Achieving Full Interoperability

VA and DOD continue to take steps toward achieving full interoperability by September 30, 2009. In this regard, the departments have achieved planned capabilities for three of the objectives—refine social history data, share physical exam data, and demonstrate initial network gateway operation. Specifically, with regard to these objectives, the departments have accomplished the following capabilities:

- The sharing of viewable social history data captured in DOD's
 electronic health record, thus providing VA with additional clinical
 information on shared patients that clinicians could not previously
 view. These data describe, for example, patients' involvement in
 hazardous activities and tobacco and alcohol use.
- The sharing of physical exam data, allowing VA to view DOD's
 medical exam data through the BHIE interface, which supports the
 physical exam process when a service member separates from
 active military duty. VA clinicians are able to view outpatient
 treatment records, pre- and post- deployment health assessments,
 and post deployment health reassessments.
- The operation of secure network gateways to support health information sharing between the departments, thus facilitating future growth in data sharing. As of early July, the departments reported that five network gateways were operational and that data

migration to two of the operational gateways had begun.¹³ The departments believed these five gateways satisfy the intent of the objective and will provide sufficient capacity to support health information sharing between VA and DOD as of September 2009.

For the remaining three objectives—expand questionnaires and self assessment tools, expand Essentris in DOD, and demonstrate initial document scanning—the departments have partially achieved planned capabilities, with additional work needed to fully meet clinicians' needs.

Specifically, for the objective to expand questionnaires and self assessment tools, the departments intend to provide all periodic health assessment data stored in the DOD electronic health record to VA in a format that associates questions with responses. Health assessment data is collected from two sources: questionnaires administered at military treatment facilities and a DOD health assessment reporting tool that enables patients to answer questions about their health upon entry into the military. Questions relate to a wide range of personal health information, such as dietary habits, physical exercise, and tobacco and alcohol use. While the departments have established the capability for VA to view questions and answers from the questionnaires collected by DOD at military treatment facilities, they have not yet established the additional capability for VA to view information from DOD's health assessment reporting tool. Department officials stated that they intend to provide this capability by September 2009.

However, the other two objectives—expand Essentris in DOD and demonstrate initial document scanning—are expected to require substantial additional work beyond September to meet clinicians' needs. By September 30, DOD intends to expand its Essentris system to at least one additional site for each military medical service and to increase the percentage of inpatient discharge summaries that it shares electronically with VA to 70 percent. According to the interim director of the interagency program office, as of late June 2009, the departments had expanded the system to

¹³The five operational gateways are located in Dallas, Texas; Reston, Virginia; Kansas City, Missouri; North Chicago, Illinois; and Santa Clara, California.

two Army sites (but not yet to an Air Force or Navy site) and were sharing 58 percent of inpatient discharge summaries. The interim director stated that the departments expect to share 70 percent of inpatient discharge summaries and expand the system to an Air Force and a Navy site by the September deadline. Nevertheless, the official added that to better meet clinicians' needs, DOD will need to further expand the inpatient medical records system. In this regard, the department has established a future goal of making the inpatient system operational for 92 percent of DOD's inpatient beds by September 2010.

The departments also expect to demonstrate an initial capability to scan service members' medical documents into the DOD electronic health record and share the documents electronically with VA by September 2009. According to the program office interim director, the departments were in the process of setting up an interagency test environment to test the initial capability to query medical documents associated with specific patients as of late June 2009. He stated that the departments expect to begin user testing at up to nine sites by September 2009. According to this official, these activities are expected to demonstrate an initial document scanning capability. However, after September 2009, the departments anticipate needing to perform additional work to expand their initial document scanning capability (e.g., completion of user testing and establishment of the scanning capability at all DOD sites).

In conclusion, VA and DOD have continued to increase electronic health information interoperability, and have taken steps to meet the six objectives that they identified as necessary to achieve full interoperability by September 30, 2009. However, for two of the six interoperability objectives, the departments subsequently plan to perform significant additional activities that are necessary to meet clinicians' needs. Further, the departments' lack of progress in establishing fundamental IT management capabilities that are the specific responsibilities of the interagency program office contributes to uncertainty about the extent to which they will achieve full interoperability by the deadline. Although the departments have generally made progress toward making the program office operational, the absence of performance metrics,

and a complete integrated master schedule and a project plan, limits the office's ability to effectively manage and provide meaningful progress reporting on the delivery of interoperable capabilities that are deemed critical to improving the quality of health care for our nation's veterans.

To better improve the management of VA's and DOD's efforts to achieve fully interoperable electronic health record systems, our draft report recommends that the Secretaries of Defense and Veterans Affairs emphasize the interagency program office's establishment of a project plan and a complete and detailed integrated master schedule.

Mr. Chairman, this concludes my prepared statement. I would be pleased to respond to any questions that you or other members of the subcommittee may have.

Contact and Acknowledgments

If you have any questions on matters discussed in this testimony, please contact Valerie C. Melvin, Director, Information Management and Human Capital Issues, at (202) 512-6304 or melvinv@gao.gov. Other individuals who made key contributions to this testimony are Mark Bird, Assistant Director; Rebecca Eyler; Michael Redfern; J. Michael Resser; Kelly Shaw; Eric Trout; and Merry Woo.

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